DEFENSE LOGISTICS AGENCY
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COLUMBUS, OH 43216-5000

IN REPLY REFER TO

DSCC-VAT (Mr. Arps/DSN 850-0506/(614)692-0506, david.arps@dla.mil) 20 April 2004

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Proposed Revisions and New Specification Sheets (*)

In addition to being provided with this memorandum, initial drafts for the subject documents are now available for viewing and downloading from the DSCC-VA Web site:

http://www.dscccols.com/Programs/MilSpec
or
http://www.dscc.dla.mil/Programs/MilSpec/DocSearch.asp

Document Number	Project Number	Document Number	Project Number
MIL-DTL-3928/16C	5985-1296	MIL-DTL-3928F Supplement 1	5985-1299
MIL-DTL-3928/17C	5985-1297	MIL-DTL-3928/26	5985-1300 *
MIL-DTL-3928/18D	5985-1298	MIL-DTL-3928/27	5985-1301 *
MIL-DTL-3928/10F	5985-1294	MIL-DTL-3928/28	5985-1302 *
MIL-DTL-3928/15F	5985-1295		

The scope and intent of the changes is to establish requirements for new switches for which QPL qualification listing is sought. An attached table is provided identifying which documents are revision and which are new specification sheets. In each case new drawings have been provided for each new dash number established, one new dash number for each new switch. Electrical characteristics tables have also been amended to accomodate the new dash numbers. Changes from previous issues are denoted by vertical lines in the margins.

If these documents are of interest to you, please submit typed comments concurrence using e-mail or by letter. Comments or suggested changes that are not editorial in nature should include justification. Industrial activities should indicate whether commenting from the standpoint of a "User" or "Manufacturer." Military review activities should forward comments to custodians in sufficient time to allow consolidating the departmental reply. Navy review activities are requested to send comments to this center in lieu of Navy - EC custodian. All agencies, industry, and coordinated custodian comments should be sent to this center. Comments from military departments must be identified as "Essential" or "Suggested." Essential comments, which must be accepted or withdrawn, should be supported by test data unless they obviously require no data.

Return comments to this Center no later than 45 days from date of this letter. Further coordination concerning these documents will be circulated only to organizations that furnish comments or reply that they have an interest.

Direct questions to Mr. David Arps, by e-mail at david.arps@dla.mil (preferred); by telephone at 614-692-0506, DSN 850-0506; by facsimile 614-692-6939; or by mail at Defense Supply Center, Columbus, Electronic Components Team DSCC-VAT, P.O. Box 3990, Columbus, OH 43216-5000.

/SIGNED/

Attachments

KENDALL A. COTTONGIM
Chief
Electronic Components Team

_____ CONCUR _____ NO INTEREST _____ WILL REPLY BY DEADLINE

COMPANY NAME _____ POINT OF CONTACT _____

PHONE _____ E-MAIL _____

Projects to incorporate New Switches (new dash nos.) for QPL qualification

Project	Scope	New Figures
5985-1294 Rev MIL-DTL-3928/10F	Incorporate three new dash nos. -013 -014 -015	Figures 8, 9, 10
5985-1295 Rev MIL-DTL-3928/15F	Incorporate three new dash nos. -017 -018 -019	Figures 12, 13 14
5985-1296 Rev MIL-DTL-3928/16C	Incorporate new dash no. -03	Figure 2
5985-1297 Rev MIL-DTL-3928/17C	Incorporate new dash nos. -04 -05 -06	Figures 4, 5, 6
5985-1298 Rev MIL-DTL-3928/18D	Incorporate new dash no. -09.	Figure 9
5985-1300 New MIL-DTL-3928/26	New specification sheet w/ dash nos. -01 -02	Figures 1, 2
5985-1301 New MIL-DTL-3928/27	New specification sheet w/ dash nos. -01 -02	Figures 1, 2
5985-1302 New MIL-DTL-3928/28	New specification sheet w/ dash no. -01.	Figure 1
5985-1299 Rev MIL-DTL-3928F Supplement 1	Incorporate new specification sheets /26, /27, /28; is new supplement for revised basic specification.	N/A

NOTE: Any numbers used within this table are tentative pending coordination, review and approval and should not be used for acquisition purposes.

This draft, dated 20 April 2004 prepared by DLA-CC, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL. (Project 5985-1298)

NCH-POUND

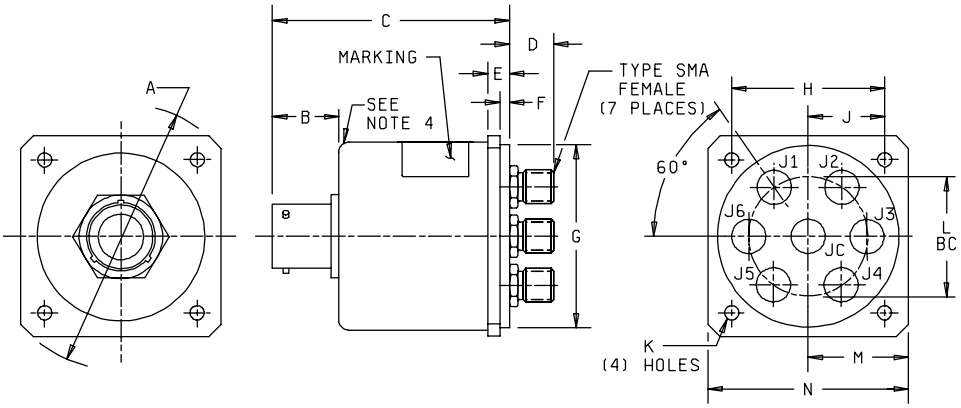
MIL-DTL-3928/18D
DRAFT
SUPERSEDING
MIL-DTL-3928/18C
15 August 2001

DETAIL SPECIFICATION SHEET

SWITCHES, RADIO-FREQUENCY
TRANSMISSION LINE (COAXIAL) (ELECTRICALLY OPERATED)
CLASS 5, 1P6T

This specification is approved for use by all Departments and Agencies of the Department of Defense.

Requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-3928.



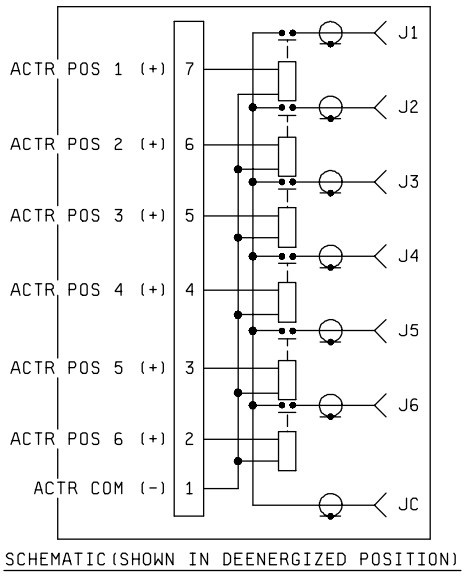
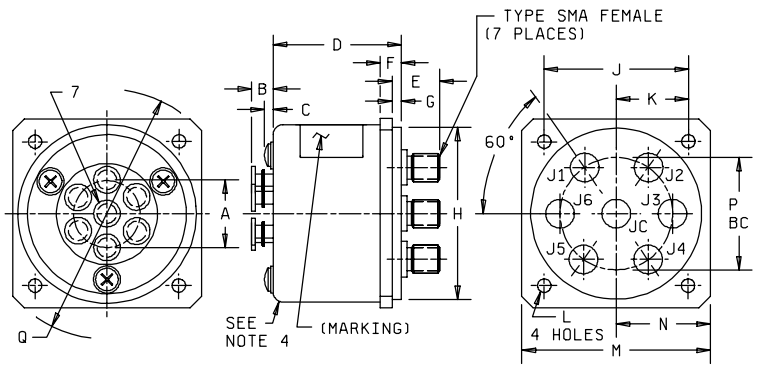


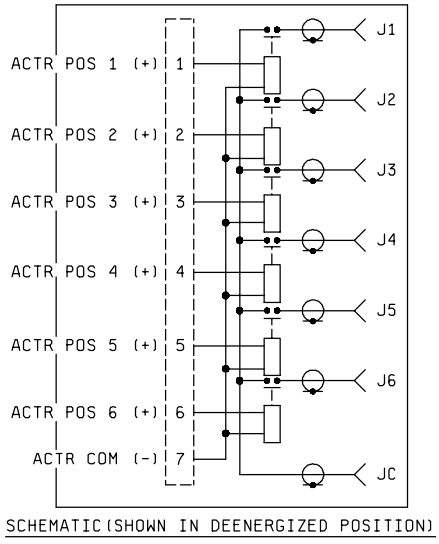
FIGURE 1. Switch configuration and schematic, PIN M3928/18-01.

Dimensions									
	Inches		Millimeters			Inches		Millimeters	
Letter	Max	Min	Max	Min	Letter	Max	Min	Max	Min
A	2.34	2.28	59.4	57.9	H	1.380	1.370	35.05	34.80
B	.62	.56	15.7	14.2	J	.697	.677	17.70	17.20
C	1.60	---	40.6	---	K	.154 dia	.139 dia	3.91 dia	3.53 dia
D	.34	.28	8.6	7.1	L	1.072 dia	1.052 dia	27.23 dia	26.72 dia
E	.260	.240	6.60	6.10	M	.885	.865	22.48	21.97
F	.135	.115	3.43	2.92	N	1.78	1.72	45.21	43.69
G	1.560	1.556	39.62	39.52					

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are ± .010 (± 0.25 mm) for three place decimals and ± .03 (± 0.8 mm) for two place decimals.
4. Round corners of case may be squared.

FIGURE 1. Switch configuration and schematic, PIN M3928/18-01 - Continued.



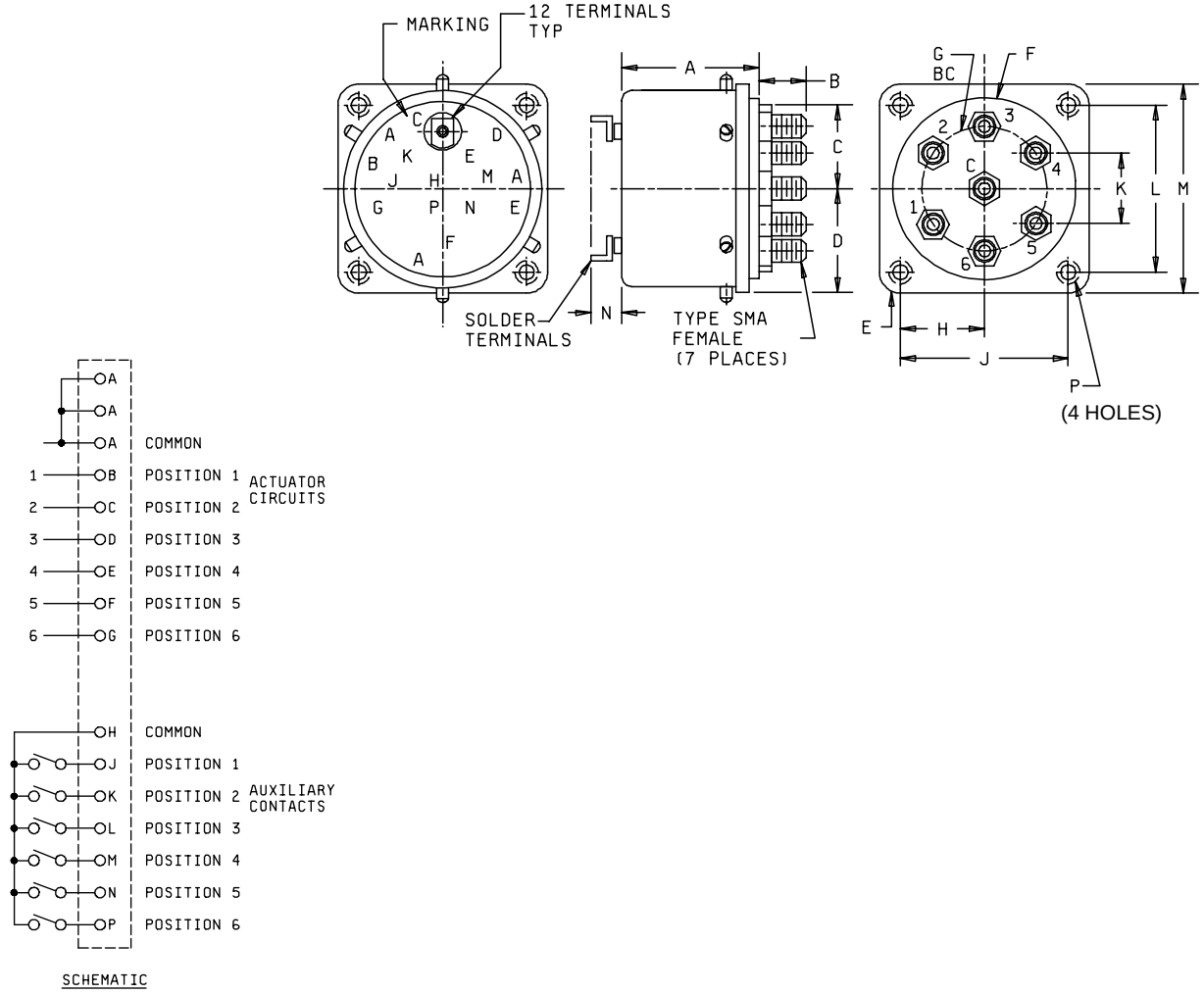


SCHEMATIC (SHOWN IN DEENERGIZED POSITION)

Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	.58 (BC)	.52 (BC)	14.7 (BC)	13.2 (BC)	J	1.380	1.370	35.05	34.80
B	.21	.15	5.3	3.8	K	.697	.677	17.70	17.20
C	.10	---	2.5	---	L	.154 dia	.139 dia	3.91dia	3.53 dia
D	1.55	---	39.4	---	M	1.78	1.72	45.2	43.7
E	.34	.28	8.6	7.1	N	.885	.865	22.48	21.97
F	.28	.22	7.1	5.6	P	1.072 dia	1.052 dia	27.23 dia	26.72 dia
G	.130	.120	3.30	3.05	Q	2.33 dia	2.27 dia	59.2 dia	57.7 dia
H	1.560	1.556	39.62	39.52					

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are ± .010 (± 0.25 mm) for three place decimals and ± .03 (± 0.8 mm) for two place decimals.
4. Round corners of case may be squared.

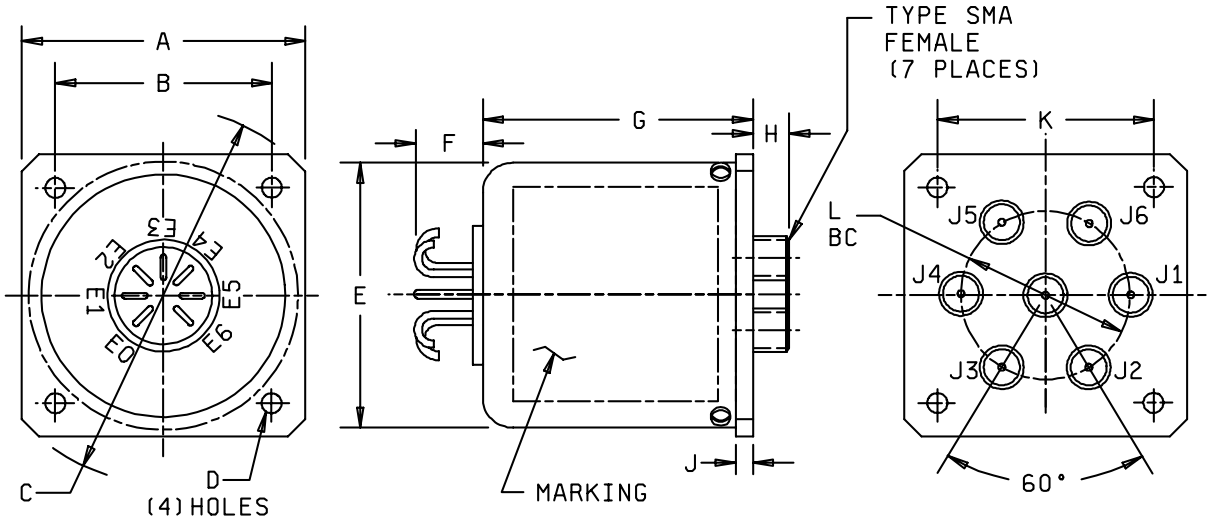
FIGURE 2. Switch configuration and schematic, PINs M3928/18-02 and M3928/18-08.

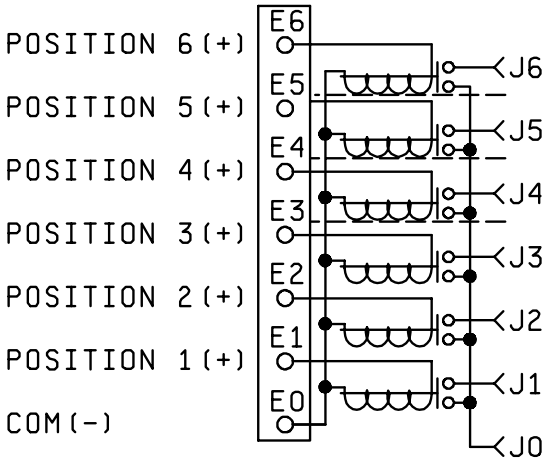


Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	2.08	2.04	52.8	51.8	H	.692	.682	17.58	17.32
B	.33	.29	8.4	7.4	J	1.380	1.370	35.05	34.80
C	.692	.682	17.58	17.32	K	.55	.51	13.97	12.95
D	.880	.870	22.35	22.10	L	1.380	1.370	35.05	34.80
E	.20 R	.16 R	5.1 R	4.1 R	M	1.77	1.73	45.0	43.9
F	1.565 dia	1.555 dia	39.75 dia	39.50 dia	N	.35	.31	8.9	7.9
G	1.067 dia	1.057 dia	27.10 dia	26.85 dia	P	4-40 UNC-2B		.112-40 UNC-2B	

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Metric equivalents are in parentheses.
4. Round corners of case may be squared.
5. Unless otherwise specified, tolerances are ± .005 (± 0.13 mm) for three place decimals and ± .02 (± 0.5 mm) for two place decimals.

FIGURE 3. Outline and schematic drawing, PIN M3928/18-03.



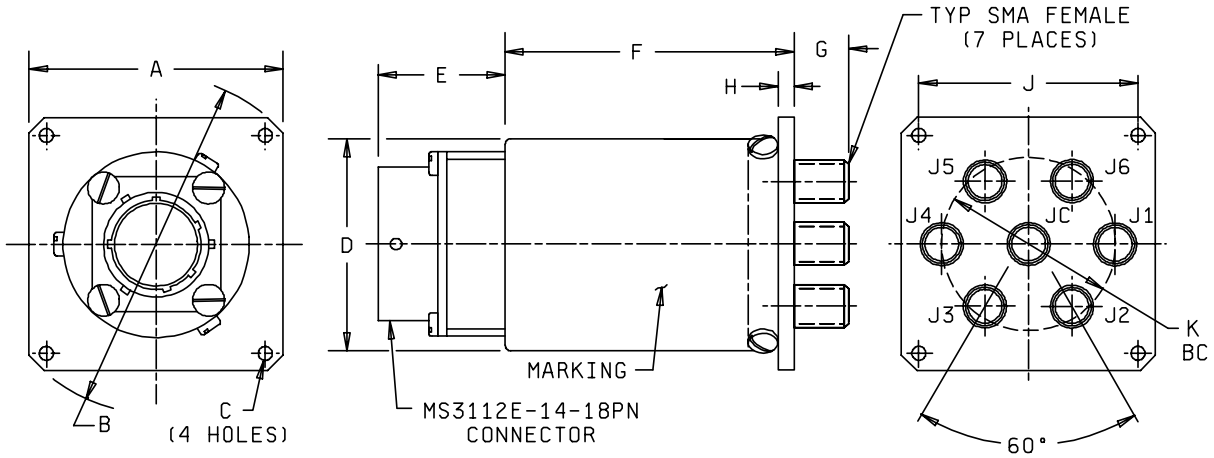


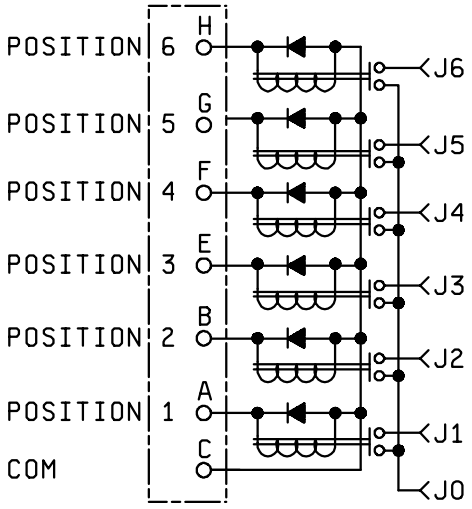
SCHEMATIC (SHOWN IN DEENERGIZED POSITION)

Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	1.77	1.73	45.0	43.9	G	1.85	---	47.0	---
B	1.65	---	41.9	---	H	.38	---	9.7	---
C	2.33	2.29	59.2	58.2	J	.130	.120	3.30	3.05
D	.135 dia	.120 dia	3.43 dia	3.05 dia	K	1.380	1.370	35.05	34.80
E	1.52 dia	1.48 dia	38.6 dia	37.6 dia	L	.885 dia	.875 dia	22.48 dia	22.23 dia
F	.27	.23	6.9	5.8					

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are ± .005 (± 0.13 mm) for three place decimals and ± .02 (± 0.5 mm) for two place decimals.

FIGURE 4. Switch configuration and schematic, PIN M3928/18-04.



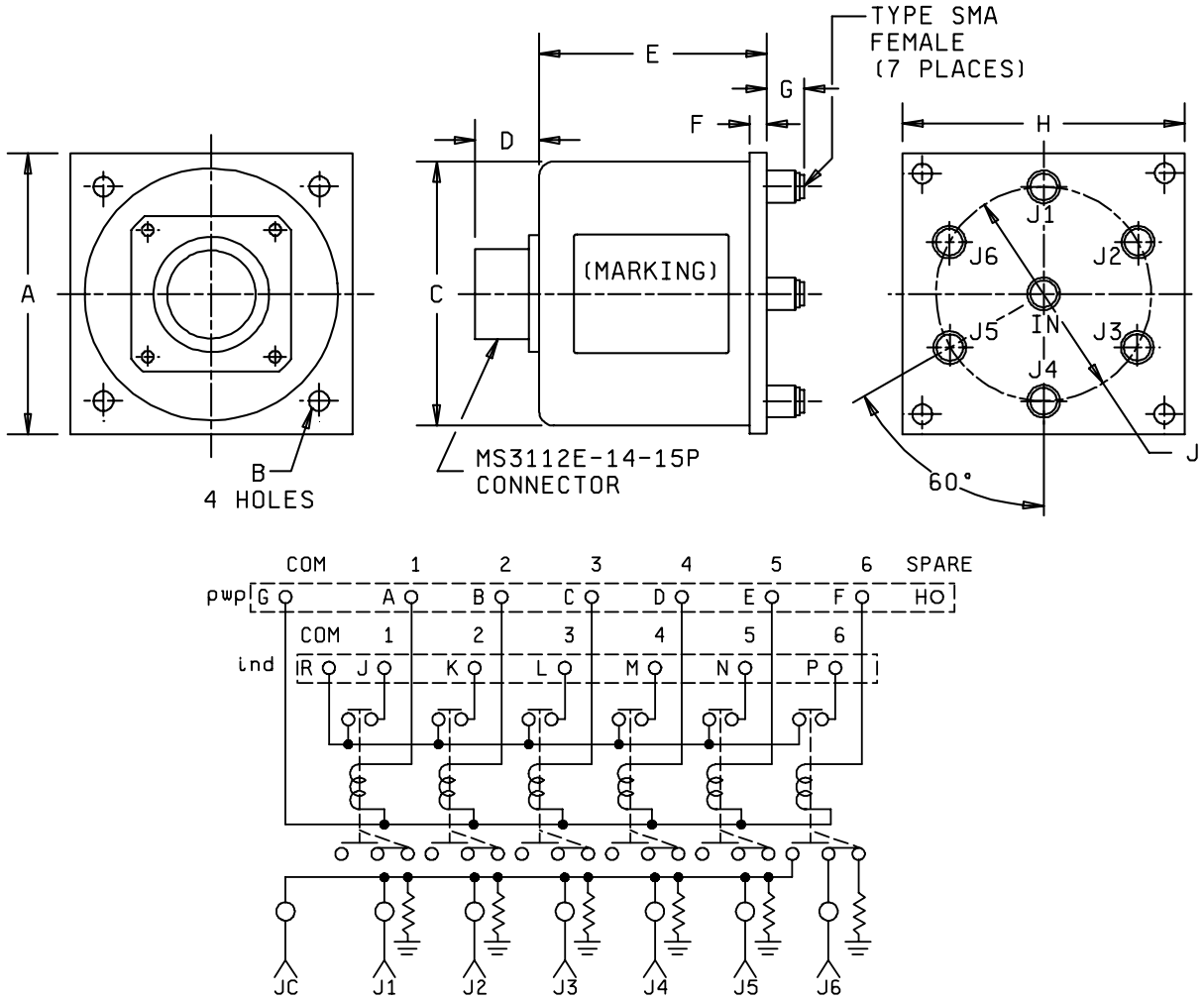


SCHEMATIC
(SHOWN IN DEENERGIZED POSITION)

Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	1.77	1.73	45.0	43.9	F	1.85	---	47.0	---
B	2.33 dia	2.29 dia	59.2 dia	58.2 dia	G	.27	---	6.9	---
C	.135 dia	.120 dia	3.43 dia	3.05 dia	H	.130	.120	3.30	3.05
D	.152 dia	.148 dia	3.86 dia	3.76 dia	J	1.380	1.370	35.05	34.80
E	.95	---	24.1	---	K	.885	.875	22.48	22.23

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are ± .005 (± 0.13 mm) for three place decimals and ± .02 (± 0.5 mm) for two place decimals.

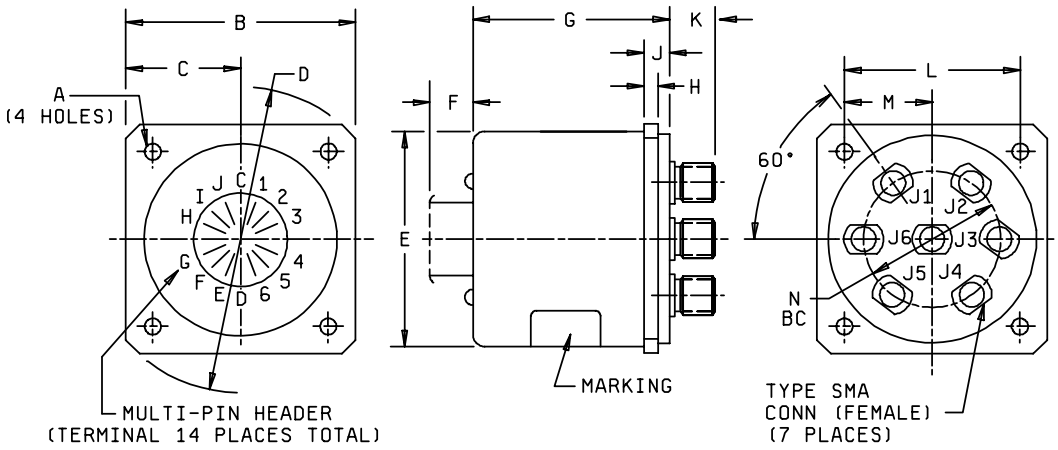
FIGURE 5. Switch configuration and schematic, PIN M3928/18-05.

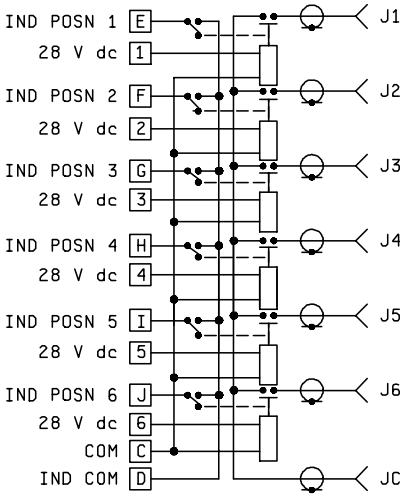


Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	2.28	2.22	57.9	56.4	F	.20	.14	5.1	3.6
B	.187 dia	.172 dia	4.75 dia	4.37 dia	G	.27	---	6.9	---
C	2.03 dia	1.97 dia	51.6 dia	50.0 dia	H	1.805	1.795	45.8	45.6
D	.53	.47	13.5	11.9	J	1.63 dia	1.57 dia	41.4 dia	39.9 dia
E	2.46	2.40	62.5	61.0					

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are ± .010 (± 0.25 mm) for three place decimals and ± .03 (± 0.8 mm) for two place decimals.

FIGURE 6. Switch configuration and schematic, PIN M3928/18-06.





SCHEMATIC (SHOWN IN DEENERGIZED POSITION)

Dimensions									
Letter	Inches		Millimeters		Letter	Inches		Millimeters	
	Max	Min	Max	Min		Max	Min	Max	Min
A	.154	.139	3.91	3.53	H	.135	.115	3.43	2.92
B	1.78	1.72	45.2	43.7	J	.28	.22	7.1	5.6
C	.885	.865	22.48	21.97	K	.31	---	7.9	---
D	2.34 dia	2.28 dia	59.4 dia	57.9 dia	L	1.385	1.365	35.18	34.67
E	1.568 dia	1.548 dia	39.83 dia	39.32 dia	M	.697	.677	17.70	17.20
F	.28	.22	7.1	5.6	N	1.072 dia	1.052 dia	27.23 dia	26.72 dia
G	2.00	---	50.8	---					

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only (1.00 inch = 25.4 mm).
3. Unless otherwise specified, tolerances are ± .010 (± 0.25 mm) for three place decimals and ± .03 (± 0.8 mm) for two place decimals.

FIGURE 7. Switch configuration and schematic, PIN M3928/18-07.

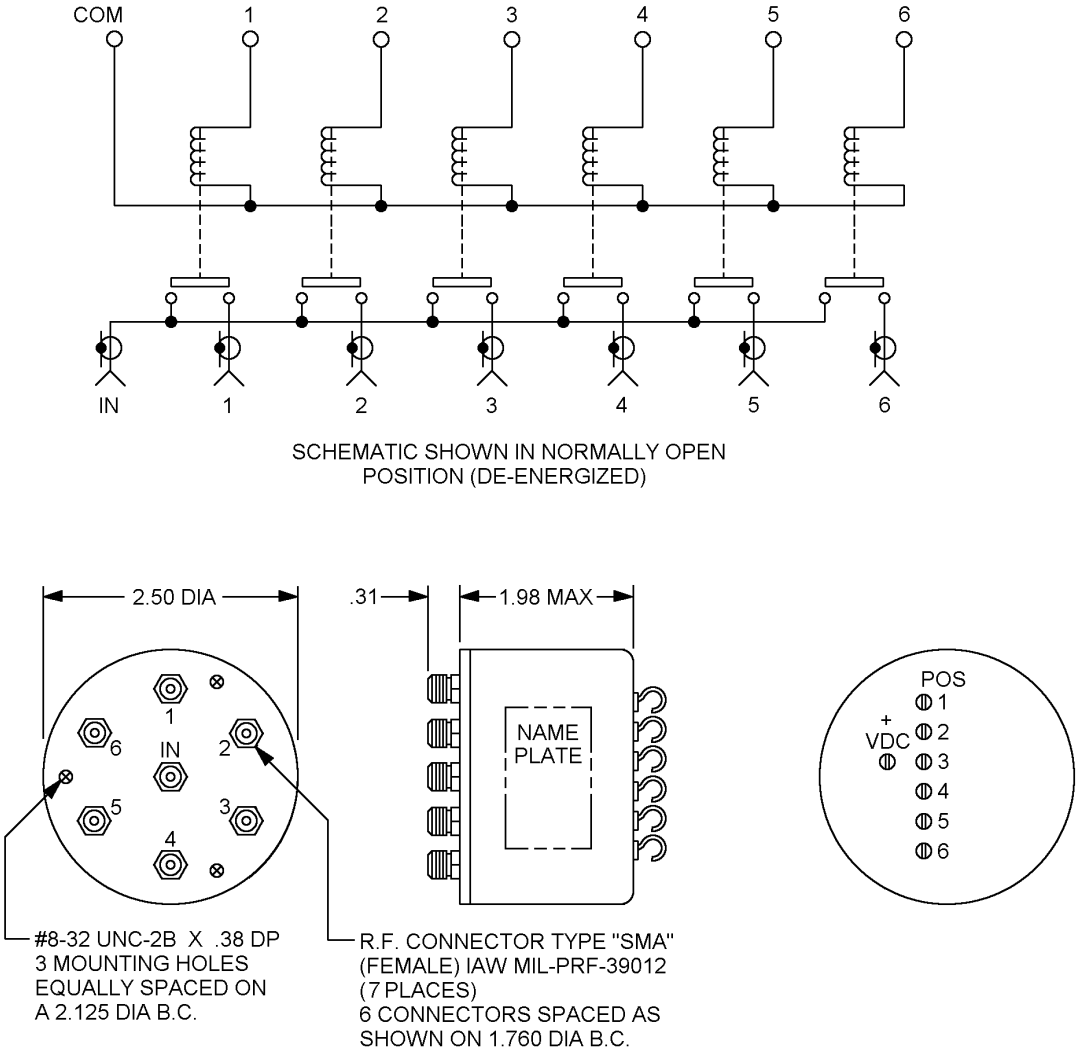


FIGURE 8. Switch configuration and schematic, PIN M3928/18-09.

TABLE I. Electrical and performance characteristics.

PIN M3928/18-	Fig. No.	Housing	Frequency range dc to GHz	VSWR	Insertion loss (dB)	Isolation (dB)	Switch time (ms)	Position indication circuit and rating	Life cycles x 1000	Fail-safe or latching	Operating current (A) 1/	Holding current (A) 1/	Nominal operating voltage	Pickup voltage (less than)	Dropout voltage (less than)	Power and indicator connector	Weight (oz)
				Max	Max	Min	Max		Min		Max	Max					Max
01N, S	1	I	18	1.5:1	0.5	60	20	None	1000	---	.17	.17	28 V dc	20 V dc	16 V dc	RTK07-8-7P (Deutsch or equal)	6
02N, S	2	I	18	1.5:1	0.5	60	20	None	1000	---	.17	.17	28 V dc	20 V dc	16 V dc	Solder terminals	6
03N, S	3	I	18 at 2-7 at 2-3	1.5:1 1.25:1	0.5 0.3	60 2/	50	None	1000	---	.22	.22	28 V dc	24 V dc	18 V dc 3/	Solder terminals	4.5
04N, S	4	I	18 at 6-12 at DC-6	1.5:1 1.4:1 1.25:1	0.5 0.4 0.25	60 60 70	20	None	1000	---	.17	.17	28 V dc	20 V dc	16 V dc	Solder terminals	6
05N, S 4/	5	I	18 at 6-12 at DC-6	1.5:1 1.4:1 1.25:1	0.5 0.4 0.2	60 60 70	20	None	1000	---	.16	.16	28 V dc	20 V dc	16 V dc	MS3112E14-18PN	4
06N, S 5/	6	I	18	1.5:1	0.5	60	15	2A at 28 V dc	1000	---	.16	.16	28 V dc	20 V dc	16 V dc	MS3112E14-15P	6
07N, S	7	I	18	1.5:1	0.5	60	20	2A at 28 V dc	1000	---	.18	.18	28 V dc	20 V dc	16 V dc	Solder terminals	6
08N, S	2	I	18.5	1.5:1	0.6	60	20	None	1000	---	.17	.17	28 V dc	20 V dc	16 V dc	Solder terminals	6
09 N,S	8	---	12	1.5:1 6/	0.5 7/	60 8/	20	None	1000	F	.260	---	28 V dc	---	---	Solder terminals	---

1/ At 28 V dc and 20°C.

2/ Isolation between connected ports and open ports shall be 6 dB minimum.

3/ Switch must return to deenergized position at no less than 2 volts.

4/ Contain ARC suppression diodes.

5/ Off-circuit output terminals are terminated with a 50 ohm, .5 watt resistor.

6/ VSWR max for 1 to 4 GHz is 1.4:1, for DC to 1 GHz is 1.25:1.

7/ Insertion loss max for 1 to 4 GHz is 0.4 dB, for DC to 1 GHz is 0.3 dB.

8/ Isolation min for DC to 1 GHz is 70 dB.

REQUIREMENTS:

Dimensions and configurations: See figures 1 through 8.

Termination: Open, except for dash number 06, which is terminated.

Nominal impedance: 50 ohms.

RF connectors: Female connectors (7 places) shall meet the requirements of MIL-PRF-39012 and shall mate with SMA type male connectors in accordance with MIL-PRF-39012/55.

Electrical and performance characteristics: See table I.

Auxiliary contacts: 2 amps at 28 V dc for dash number 03.

RF power handling capability (average): 25 watts (minimum) except for dash number 03 which is 30 watts; power (max) for dash number 09 is 100 watts cw.

Transient interference (RFI): Required for M3928/18-03.

Vibration: Method I.

Operating temperature: -55°C to +85°C except for dash number 03 which is -55°C to +115°C.

Part or Identifying Number (PIN): M3928/18- (and dash number from table I).

NOTES

Referenced documents. In addition to MIL-DTL-3928, this specification sheet references MIL-PRF-39012, MIL-PRF-39012/55, and MS3112.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsover for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:
Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

(Project 5985-1298)

Review activities:
Army - MI
Navy - AS, CG, MC, OS
Air Force - 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online data base at www.dodssp.daps.mil.